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EXAMINER

YAN, REN LUO

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/561,748
Filing Date: April 20, 2006
Appellant(s): GYGI, MATTHIAS

Glenn M. Seager
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on 8-3-2010 appealing from the Office action mailed 1-15-2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-7, 11-16, 21-24 and 26.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN

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REJECTIONS.” New grounds of rejection (if any) are provided under the subheading “NEW GROUNDS OF REJECTION.”

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant’s brief.

(8) Evidence Relied Upon

Applicant's Admitted Prior art (AAPA), Fig. 1 and page 7 of the present specification.

7,047,883	RAKSHA ET AL	5-2006
5,247,317	CORVER ET AL	9-1993

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1 - 7, 11-16, 21-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter AAPA) in view of Raksha et al. (Patent No. 7,047,883) and Corver et al (5,247,317).

With respect to claims 1 and 11, AAPA teaches in Fig. 1 and on page 7 of the present specification the structure and method of a printing machine for printing a substrate in the form of a sheet or continuous web as claimed, said substrate being intended to receive at least one impression, comprising at least one transfer system for conveying the substrate onto an impression cylinder 6, at least one screen of cylindrical shape 7, 8 equipped with a doctor blade, the screen collaborating with the impression cylinder and intended to print the substrate by screen-printing with an ink and an unloading system 9 for carrying the substrate away after the printing operation.

However, AAPA does not teach to use optically variable ink and magnetic element(s) disposed on the impression cylinder at a location corresponding to the impression on the substrate so as to orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression and does not teach that the magnetic element(s) are covered by a sheet of non-magnetic material.

Raksha et al. discloses in Figs. 12A-C and 11B as well as column 13 lines 25 - 67 a printing machine for printing a substrate (212) in the form of a sheet or continuous web the conventional use of optically variable ink 215 and magnetic elements 202, 204, 206, 208 disposed on the surface of an impression cylinder at locations corresponding to ink impressions

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220 so as to orientate the magnetically alignable flakes contained in the optically variable ink
215 and enhance the visual quality of the images thus printed.

Carver et al teach the conventionality of providing a magnetic roller 130 with a sheet of non-magnetic material 131 such as aluminum or stainless steel to cover the magnets 135 disposed on the roller surface. See Fig. 2 and column 3, lines 43-59 in Carver et al for example.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the printing machine and method of AAPA with the optically variable ink and magnetic elements on the surface of the impression cylinder appropriately disposed as taught by Raksha et al in order to predictably orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression. The application of the teaching of Raksha et al in the printing machine and method of AAPA would thus predictably achieve enhanced visual quality of the printed product and provide security features when printing on high-value documents such as bank notes.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to provide the magnetic elements on the cylinder surface of AAPA, as modified by Raksha et al with a sheet of non-magnetic material such as aluminum or stainless steel as taught by Carver et al so as to predictably obtain a homogeneous magnetic field at the surface of the cylinder.

With respect to Claim 2, AAPA, as modified by Raksha et al and Corver et al teaches wherein the substrate receives a plurality of impressions arranged in the form of a matrix (Fig.

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12C in Raksha et al) and wherein the impression cylinder comprises a plurality of magnetic elements arranged in a corresponding matrix form.

With respect to Claim 3, AAPA, as modified by Raksha et al and Corver et al teaches all that is claimed except for the magnetic elements arranged on a cylinder in an unloading system.

However Raksha et al. et al. also teach in Figs. 12B an unloading system comprising a cylinder 222' having at least one magnetic element (202') on its surface.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of invention was made to have further modified the printing machine of AAPA by using a magnetic element in a cylinder in the unloading system as taught by Raksha et al in order to predictably orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression.

With respect to Claim 4, AAPA, as modified by Raksha et al and Corver et al teaches wherein said cylinder is an unloading cylinder 222'.

With respect to Claim 5, AAPA, as modified by Raksha et al and Corver et al teaches wherein said cylinder is an intermediate cylinder. The Examiner notes that since an intermediate cylinder has not been properly defined in relation to the rest of the printing machine structure, the roller 222' in Raksha et al reads on the intermediate cylinder as recited.

With respect to Claims 6 and 22, AAPA, as modified by Raksha et al and Corver et al teaches wherein said magnetic element or elements create a magnetic field in a predetermined direction as recited.

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With respect to Claims 7 and 23, AAPA, as modified by Raksha et al and Corver et al teaches wherein magnetic element or elements are oriented in a direction parallel and/or perpendicular to the direction of travel of the substrate as recited.

With respect to Claim 12, AAPA, as modified by Raksha et al Corver et al teaches wherein the magnetic field orientates the pigments (magnetic flakes) in a predetermined direction.

With respect to Claim 13, AAPA, as modified by Raksha et al and Corver et al teaches wherein the pigments (magnetic flakes) are orientated in a direction parallel and/or perpendicular to the direction of travel of the substrate.

With respect to claim 14, AAPA, as modified by Raksha et al and Corver et al teaches (page 7 of the present specification) wherein a first impression is formed on the substrate and subjected to a first magnetic field and dried, and a second impression is formed on the first impression and subjected to a second magnetic field and then dried so as to create a multi-color image.

With respect to claim 15, AAPA, as modified by Raksha et al and Corver et al teaches wherein two impressions are formed on the substrate to create a multi-color image. It would have been obvious to those skilled in the art to orient the magnetic flakes in the two impressions in different directions in order to create a special visual effect to further enhance the quality of the image.

With respect to Claim 16, AAPA, as modified by Raksha et al and Corver et al teaches wherein said impressions comprises a plurality of individual impressions arranged in a matrix form (12C in Raksha et al).

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With respect to Claim 21, AAPA, as modified by Raksha et al and Corver et al teaches wherein a corresponding magnetic field is produced for each of said individual impressions.

With respect to claims 24 and 26, AAPA, as modified by Raksha et al and Corver et al teaches wherein the sheet of non-magnetic material is made of aluminum or of stainless steel.

(10) Response to Argument

Appellant argued that the function, structure and purpose of the magnetic roller 130 of Corver et al is fundamentally different from what is specifically claimed in the instant invention because the magnetic roller 130 of Corver et al is specifically designed to transfer and apply a uniform layer of printing material (namely toner), the cylinder carrying at least one magnetic element which is a constituent of the claimed invention is not at all designed to apply or transfer any such printing material (namely optically variable printing ink in the context of the claimed invention). The cylinder of the claimed invention is rather used to orient pigments that are contained in the optically variable ink that has been applied onto a substrate by means of the claimed at least one screen.

The Examiner respectfully disagrees. The reliance of Corver's teaching is to achieve a homogeneous magnetic field at the surface of the impression cylinder where the magnetic element(s) are located. As pointed out in the forgoing rejection, AAPA, as modified by Raksha et al teaches all that is claimed including the use of optically variable ink printed by screen printing and the magnetic element(s) disposed on the surface of an impression cylinder at locations corresponding to ink impressions so as to orient the optically variable ink to enhance the visual quality of the images thus printed. The Corver et al patent was relied on for the

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teaching of providing a magnetic roller 130 with a sheet of non-magnetic material 131 such as aluminum or stainless steel to cover the magnets 135 disposed on the roller surface for the purpose of obtaining a homogeneous magnetic field at the surface of the cylinder. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the magnetic element(s) on the cylinder surface of AAPA, as modified by Raksha et al with a sheet of non-magnetic material such as aluminum or stainless steel as taught by Carver et al so as to predictably obtain a homogeneous magnetic field at the surface of the impression cylinder where the magnetic element(s) are located.

Appellant also argued that if providing the magnetic elements with a sheet of non-magnetic material as taught by Corver et al provides a homogeneous field at the surface of the cylinder, then the machine so produced cannot orient the pigments in the optically variable ink to create a varying optical effect because the varying effect in the printed ink is created only by a non-homogeneous magnetic field.

This argument is not persuasive. The Examiner points out that AAPA, as modified by the teachings of Raksha et al would only have the magnetic element(s) disposed on the surface of the impression cylinder at selected locations in order to orient the pigments in the optically variable ink to create a varying optical effect at these locations. When these magnetic element(s) are provided with a sheet of non-magnetic material as taught by Corver et al, a homogeneous magnetic field will be generated under the influence of the magnetic element(s) only locally at these selected locations. The rest of the impression cylinder surface without the presence of the magnetic elements would not be affected by the magnetic field and thus would not function to orient the optically variable ink to create a varying optical effect. Since the homogeneous

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magnetic field at the surface of the impression cylinder is generated only locally at where the magnetic element(s) are located, the entire impression cylinder in AAPA, as modified by Raksha et al and Corver et al is not covered by a homogeneous magnetic field. Accordingly, the impression cylinder of AAPA, as modified by Raksha et al and Corver et al, would function to orient the pigments in the optically variable ink to create a varying optical effect at these selected locations.

Appellant further argued that if the addition of a sheet of non-magnetic material does not provide a homogeneous field at the surface of the cylinder as stated by the Examiner, then there is no motivation to make the combination. The Examiner respectfully disagrees. As pointed out above, the homogeneous magnetic field is generated at the surface of the impression cylinder only locally at where the magnetic element(s) are located. Those skilled in the art, when presented with the teaching of Corver et al, would recognize the advantage of achieving a homogeneous magnetic field at each of the magnetic elements on the impression cylinder so as to enhance the performance of the magnetic elements. Thus, one of ordinary skill in the art would be motivated to apply the teaching of Corver et al to the printing machine of AAPA, as modified by Raksha et al in order to generate homogeneous magnetic field(s) locally at where the magnetic element(s) are located to facilitate orienting the pigments contained in the optically variable ink to create a varying optical effect at these selected locations.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Ren L Yan/
Primary Examiner, Art Unit 2854

Conferees:

/Judy Nguyen/
Supervisory Patent Examiner, Art Unit 2854

/Justin P. Bettendorf/
RQAS, TC 2800